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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This Office Action is in response to an AMENDMENT filed by the Applicant entered on 6/27/2008.
2. The Office Action of 3/7/2008 is incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-3, 5, 8-11, 14, 16-22, 24, 25, 27, 30, 32-44, and 48-51 have been amended. Claims 1-45, and 47-51 are pending on this application.

Claim Objections

4. In light of the amendments made, the objection of claims 1, 3, 5, 16, 17, 20, 35, 40, 42, 43 and 46-51 made in the Office Action of 3/7/2008 has been withdrawn.
5. Claims 1-9 15, 18, 20-21, 29-37,39, 42, and 49-51 are objected to because of the following informalities:

The claims recite “electronic communications” and “communications”. The claims should all recite “electronic communications”.

Appropriate correction is required.

Claim 21 recites: “...labeling criteria developed in **the** (a)” in line 13. The claim should read “...labeling criteria developed in (a)”.

Claim Rejections - 35 USC § 112

6. In light of the amendments made on claims 2, 3, 9, 19, 21, 24, 25, 33, 50 and 51 the rejection under 35 U.S.C. 112, second paragraph, of the Office Action of 3/7/2008 has been withdrawn.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-45, and 47-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites: "presenting electronic communications to a user for labeling as relevant or irrelevant". However, the claim has not defined these "electronic communications" to any particular type of data, like documents or any type of data that a person could interpret. A person of ordinary skill in the arts would interpret electronic communications in a computer system to mean any type of process where data is manipulated, like sending data from one computer to another, passing data from one element of the computer to another or even to software code where data is being sent from one function to another. It is not clear, based on this lack of definition, how a user could label these types of "electronic communications" as relevant or irrelevant. Passing data is a process where data in abstract form is sent from one element to another. How could the user label this data (which only makes sense to the computer or computers processing the data) as relevant or irrelevant?

Claim 2 further limits claim 1 but fails to cure the deficiencies set forth above and are rejected on the same basis.

Claims 3, 21, 33, 49, 50 and 51 recite limitations similar to that of claim 1 and are rejected on the same basis. The claims which depend upon these claims are rejected for failing to cure the deficiencies set forth above in their respective independent claim.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-45, and 47-51 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer system must set forth a practical application of judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application.

For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. As the Supreme Court has made clear, “[a]n idea of itself is not patentable,” *Rubber-Tip Pencil Co. v. Howard*, 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must provide a tangible result, and there must be a practical application, by either: 1) transforming (physical thing) or 2) by having the FINAL RESULT (not the steps) achieve

or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result.

In the present case, claim 1 describes a computer implemented method for developing a classifier. However, the claim fails to provide a tangible result and a practical application for the result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter provides for deploying a classifier to classify electronic communications. The claim is directed to mere abstract manipulation of abstract data for classification. Classification, in and of itself, is useless in a real world situation absent a particular substantial application. The claims are not limited to a substantial practical application because they encompass classification of unspecified, abstract objects, producing abstract classification that has no specific purpose or use. This classification could be nothing more than producing data, which is not a practical and tangible result since data alone has no physical structure and does not itself perform any useful, concrete and tangible result.

The claim also fails to provide a concrete result because the claimed subject matter fails to be limited to the production of an assured, repeatable result. More specifically, the claimed subject matter is not repeatable because the classifier will be developed based on the labeling given by a user to the communications (relevant or irrelevant). Since there is no measure or restriction as to how the user will consider the communications relevant or irrelevant, each user may have different criteria to decide

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what they consider relevant or irrelevant. Therefore, each classifier developed for the same communications may not be the same, depending on the labels given by the user to the communications (different results for the same inputs).

Claims 2-3 further limit claim 1 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claims 3, 21, 33, 50 and 51 recite limitations similar to that of claim 1 and are rejected on the same basis. The claims which depend upon these claims are rejected for failing to cure the deficiencies set forth above in their respective independent claim.

The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852.

See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) (“A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.”); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every “substantial practical application” of an idea, law of nature or natural phenomena because such a patent “in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself.” “Here the “process” claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers’ licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus.” Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

In the present case, claims 1, 3, 21, 33, 50 and 51 provide for deploying the classifier for classifying **electronic communications**. The claims do not restrict these electronic communications to any specific type of communication. Therefore the claim provides for classifying **any** type of electronic communications (including abstractions) possible, which includes any existing communication that can be handled by a computer or any communication that could be developed that could be handled or processed by a computer.

Response to Applicant's arguments

10. The Applicant's arguments regarding the rejection under 35 USC 101 have been fully considered but are not persuasive.

In reference to Applicant's arguments on page 17:

Claims 1-51 are rejected under 35 U.S.C.101 as being directed to non-statutory subject matter. The official action submits that a computer system must set forth a practical application to produce a real-world result. By this response, the applicants have amended independent claims 1, 3, 21, 33, 49, 50, and 51 to provide a computer memory and/or method for developing and deploying a classifier for electronic communications that can be provided and used to classify communications and thus produce a real-world result that is useful and tangible to computer users. The computer memory and method for classifying provide substantial real world value to users in classifying electronic communications received at a computer or other processing device. While each user may have different criteria to classify electronic communications as relevant or irrelevant, the method(s) and media for developing and deploying the classifier functionality remain the same and provide added flexibility for each user to define his or her own criteria for relevant and irrelevant communications. Such claimed limitations are directed to statutory subject matter in the form of computer-implemented methods or computer memory and are supported by the application. Therefore, the applicants respectfully request that the rejection under 35 U.S.C. 101 be withdrawn.

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Examiner's response:

As stated in the rejection above, the claims are directed to developing a classifier and deploying the classifier for use in classifying electronic communications. However, the classification made by the classifier is not presented to the user. A classifier is a software system that generates output data, which is an abstraction unless it is further processed or presented to a user in a way that the output data produced can be used or evaluated. In and of itself, generating data in a computer is useless in a real world situation absent a particular substantial application for this data. The claims are not limited to a substantial practical application because they encompass classification of unspecified, abstract objects, producing abstract classification (data) that has no specific purpose or use. This data is not a practical and tangible result since data alone has no physical structure and does not itself perform any useful, concrete and tangible result.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4, 6-10, 16-17, 19-21, 27-29, 31-43 and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (US Patent #5,675,710, referred to as **Lewis**).

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Claim 1

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying electronic communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

(a) presenting electronic communications to a user for labeling as relevant or irrelevant, the communications being selected from groups of electronic communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; Examiner's Note (EN): item 21 applies. Note that communications are **selected** from groups of communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of communications, the training set group of communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier);

a system-labeled set of communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system);

a test set group of communications, the test set group of communications for testing the accuracy of a current state of a classifier being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

a faulty set of communications suspected to be previously mis-labeled by the user (EN: not considered);

and a random set of communications previously labeled by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; EN: the manually annotated documents are used by the supervised learning system to train the classifier);

(b) developing the classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user during the presenting of the electronic communications to the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data).

(c) deploying the classifier for use in classifying electronic communications based upon the relevant/irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62; EN: the classifier developed is used to classify documents in a database).

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Claim 2

Lewis anticipates the presenting of the electronic communications to the user includes the steps of: assessing a value that labeling a set of communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 21 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value that will be provided to the classifier being developed from the assessing step (**Lewis**: C7, L60 to C12, L4).

Claims 3 and 49

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying electronic communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

(a) presenting communications to a user for labeling as relevant or irrelevant, the communications being selected from groups of communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; Examiner's Note (EN): item 21 applies. Note that communications are **selected** from groups of communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of communications, the training set group of communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier);

a test set group of communications, the test set group of communications for testing the accuracy of a current state of the classifier being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

and a previously-labeled set of communications previously labeled by **at least one of** the user, the system and another user (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21 applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user);

(b) developing a classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data); and

(c) deploying the classifier for use in classifying electronic communications based

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upon the relevant/irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62).

Claim 4

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; EN: the manually annotated data).

Claim 6

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system).

Claim 7

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by a user and communications previously labeled by the system (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21 applies. The learning algorithm will use both manually annotated data and machine annotated data).

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Claim 8

Lewis anticipates presenting the electronic communications to the user includes: assessing a value that labeling a set of communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 21 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value that will be provided to the classifier being developed from the assessing step (**Lewis**: C7, L60 to C12, L4).

Claim 9

Lewis anticipates presenting the electronic communications to the user includes: assessing a value that labeling a set of communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4); and selecting a next group for labeling based upon the achieving known performance bounds for the classifier (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: determining if a satisfactory classification vector has been produced).

Claim 10

Lewis anticipates the step of developing an expression of labeling criteria in an interactive session with the user (**Lewis**: C2, L1-22; C7, L1-57; EN: item 21 applies.

The user will input data (an interactive session) for the documents regarding their

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relevance).

Claims 16 and 27

Lewis anticipates developing an expression of labeling criteria produces a criteria document (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will depend on the data input by the user).

Claims 17 and 28

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of items that are considered irrelevant (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents. Also not that a set of relevant documents from the documents in the database is obtained).

Claims 19, 29 and 31

Lewis anticipates the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 20

Lewis anticipates the interactive session is conducted prior to presenting the electronic communications to the user (**Lewis**: C7, L1-57).

Claims 21 and 50

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying electronic communications comprising the steps of:

(a) developing an expression of labeling criteria in an interactive session with a user (**Lewis**: C2, L1-22; C7, L1-57; EN: item 21 applies. The user will input data (an interactive session) for the documents regarding their relevance);

(b) presenting communications to the user for labeling as relevant or irrelevant (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1); and

(c) developing a classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data); and

(d) deploying the classifier for use in classifying electronic communications based upon the relevant/irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62):

wherein **at least one** (b) and (c) use the expression of labeling criteria developed in the (a) (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: the user will input data and label the documents and this data will be used by the

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learning algorithm to develop the classifier).

Claim 27

Lewis anticipates developing an expression of labeling criteria produces a criteria document (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will depend on the data input by the user. Also not that a set of relevant documents from the documents in the database is obtained).

Claim 28

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of items that are considered irrelevant (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents).

Claim 29

Lewis anticipates the criteria document includes a group of keywords for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

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Claim 31

Lewis anticipates the expression of labeling criteria includes a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 32

Lewis anticipates the group of keywords is also for use by the system in gathering communications (**Lewis:** C5, L5 to C6, L55; C11, L55 to C12, L3; EN: the classification vector is used to classify and annotate the documents in the database).

Claims 33 and 51

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying electronic communications (**Lewis:** abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising: (a) defining a domain of communications on which a classifier is to operate (**Lewis:** abstract; C1, L5-29; C6, L20-55; C7, L13 -40; EN: the database of documents is considered a domain of communications on which the classifier operates. Also note that this is a text classifier (a domain of communications). The manually annotated documents and the machine annotated documents can also be considered domains); (b) collecting a set of communications from the domain (**Lewis:** C5, L5 to C6, L65; C9, L25-46; C11, L55 to C12, L3; receiving data from the database); (c) eliciting labeling communication criteria from a user (**Lewis:** C1, L46 to C2, L22; C6,

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L20-64; C7, L1-57; EN: the data input by the user or the manual annotation of the documents); (d) labeling, by the system, communications from the set of communications according, at least in part, to the labeling communication criteria elicited from the user (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN; the machine annotated data. Note that the documents will be annotated using the classification vector obtained from the manually annotated training data); (e) labeling, by the user, communications from the set of communications (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; EN: the user will annotate the documents (relevant or irrelevant)); (f) building the communications classifier according to a combination of labels applied to communications in (d) and (e) (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data and the machine annotated data) and (g) deploying the classifier for use in classifying electronic communications based upon the combination of labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62).

Claim 34

Lewis anticipates (d) and (e), and (f) includes selecting communications for labeling by the user targeted to build the communications classifier within known performance bounds (**Lewis**: C6, L20-64; C9, L25 to C11, L32; C13, L40-62; EN: testing the classification vector for a termination condition and iterating if the condition

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has not been met).

Claim 35

Lewis anticipates the selecting communications for labeling by the user **selects communications from groups of communications** including: a training set group of communications, the training set group of communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier); a test set group of communications for testing the accuracy of a current state of the classifier (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced); and a previously-labeled set of communications previously labeled **by at least one** of the user, the system and another user (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21 applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user).

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Claim 36

Lewis anticipates selecting communications for labeling by the user **selects communications from groups of communications** (EN: note that only selecting from one group is sufficient to read on this limitation. The language does not suggest that one communication from each group must be selected) including: a training set group of communications, the training set group of communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier); a system-labeled set of communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system); a test set group of communications for testing the accuracy of a current state of the classifier being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced); a faulty set of communications suspected to be previously mis-labeled by the user; and a random set of communications previously labeled by the user (EN: not necessary to select from this group).

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Claim 37

Lewis anticipates the communication criteria elicited in the eliciting (c) is used, in part, to determine communications to collect in the collecting (b) (**Lewis:** C6, L20-64; C7, L14-40; C9, L25-46; C11, L55 to C12, L3; EN: the documents collected from the database will depend on the user's inputs or manually annotated documents).

Claims 38, 40 and 43

Lewis anticipates the eliciting (c) involves an interactive session with the user (**Lewis:** C2, L1-22; C7, L1-57; EN: item 21 applies. The user will input data (an interactive session) for the documents regarding their relevance).

Claims 39 and 42

Lewis anticipates the communication criteria elicited in the eliciting (c) is used, in part, by the system to label communications in the labeling (d) (**Lewis:** C2, L1-22; C6, L20-64; C7, L1-57; EN: machine annotations will depend on the manually annotated data).

Claims 41 and 48

Lewis anticipates the building (f) involves an active learning process (**Lewis:** abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Active learning process not further defined. The supervised learning algorithm is considered an active learning process).

Response to Applicant's arguments

13. The Applicant's arguments regarding the rejection under 35 USC 102 have been fully considered but are not persuasive.

In reference to Applicant's arguments on pages 18-20:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP 2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628,631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). The Office Action has failed to show any mechanism or teaching in Lewis regarding, for example, how a classifier for classifying electronic communications presents communications to a user from several groups of electronic communications including (1) a training set selected by an active learning algorithm; (2) a set of communications previously labeled by the system; (3) a test set for testing the accuracy of the classifier; (4) a faulty set suspected to have been previously mis-labeled by the user; and (5) a random set of communications previously labeled by the user, and then allowing the user to label those communications as relevant or irrelevant.

The applicants respectfully submit that independent claim 1 is allowable over the art of record. Claim 1 is directed to a computer assisted/implemented method for developing a classifier for classifying electronic communications that includes, inter alia, a presenting communications to a user for labeling that are selected from groups including a training set group of communications selected by an active learning algorithm; a system-labeled set of communications previously labeled by the system; a test set group of communications for testing the accuracy of a current state of the classifier being developed; a faulty set suspected to have been previously mis-labeled by the user; and a random set of communications previously labeled by the user. The art of record does not describe or suggest that such different groups of communications are presented to a user via the computer-implemented method for labeling by the user as relevant or irrelevant. A classifier is then developed and deployed for use based on the relevant/irrelevant labels. While Lewis discusses defining a classification, allowing the machine to automatically annotate documents with a degree of relevance, and then allowing a user to manually correct the machine's determination of a degree of relevance (see, e.g., Abstract and col. 3, line 60 - col. 4, line 11), Lewis fails to disclose the classifier developed and deployed as described and presently claimed in the present application, which provides the groups of communication enumerated above and goes beyond merely correcting a machine's automatic annotation of relevance. Accordingly, the applicants respectfully submit that claim 1 and all claims dependent thereon are allowable over the art of record.

Similarly, independent claim 3 provides a computer assisted/implemented method for developing a classifier for classifying electronic communications that includes, inter alia, that electronic communications are presented to a user for labeling

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as relevant or irrelevant as selected from groups of communications including a training set group of communications, the training set group of communications being selected by an active learning algorithm; a test set group of communications for testing the accuracy of a current state of the classifier being developed; and a previously-labeled set of communications previously labeled by at least one of the user, the system, and another user. The classifier is then deployed for use. As discussed above, the user-correctable machine annotation of Lewis fails to disclose the presently claimed method for classifier development and deployment as recited in claim 3. Accordingly, the applicants respectfully submit that claim 3 and all claims dependent thereon are allowable over the art of record.

The applicants submit that claim 49 recites a computer memory contains a software program including the above methodology to develop and deploy a classifier for electronic communications and should also be allowable

Examiner's response:

The claims and only the claims form the metes and bounds of the invention.

Limitations appearing in the specification but not recited in the claim are not read into the claim. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner has provided explanations as to how he interprets the reference to read on the limitations recited in the claims.

Lewis describes a user annotating a number of documents from a database as being relevant or irrelevant (**Lewis:** C7, L1-40). Clearly, these documents from the database must be presented to the user if he is to evaluate them and annotate them.

Claim 1 recites "electronic communications selected from groups of electronic communications". This language does not suggest that **at least one** document is selected from **each** of these groups and presented to the user, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the communications

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are selected (the different groups add nothing to the functionality of the claimed invention). Moreover, nothing in the claim suggests that different groups of communications are presented to the user, but that communications selected from these groups are presented to the user. There is nothing in the claim that restricts how the documents are selected from the groups in order to provide them to the user.

As for developing and deploying the classifier, the classifier in Lewis is used for classifying documents in a database (**Lewis**: C6, L20-55). This classifier will be developed based upon the annotations made to the documents by the user. Moreover, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

It should also be noted that paragraphs 2-4 of the specification of the present application could be considered admitted prior art to the limitations of claim 1 since it states that these approaches are “typical” in processes of developing classifiers. There is nothing different in the process claimed from these “typical” approaches that the specification describes.

In reference to Applicant’s arguments on page 20:

Independent claim 21 provides a computer assisted/implemented method for developing a classifier for classifying electronic communications that includes, inter alia, developing an expression of labeling criteria in an interactive session with the user. The user is then presented with electronic communications to label as relevant or irrelevant based on the criteria. The machine-generated, human-corrected annotation system of Lewis fails to disclose such an interactive session with the user to develop labeling

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criteria for electronic communications before the user labels communications as relevant or irrelevant. Accordingly, the applicants submit that claim 21 and all claims dependent thereon are allowable over the art of record.

The applicants submit that claim 50 recites a computer memory contains a software program including the above methodology to develop and deploy a classifier for electronic communications and should also be allowable.

Examiner's response:

The claims and only the claims form the metes and bounds of the invention. Limitations appearing in the specification but not recited in the claim are not read into the claim. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. As described in Lewis, a user will input data regarding the documents in the database (**Lewis**: C2, L1-22; C7, L1-57). The claim has not defined or restricted what this interactive session entails. If a user is evaluating and providing data using a computer, it is clearly an "interactive session". The inputs and the annotations provided by the user are "labeling criteria", since these will be used to identify which documents are relevant or irrelevant.

As for presenting documents to the user based on the criteria, this limitation is not in the claim. The claim only provides for presenting communications for labeling as relevant or irrelevant. As claimed, the criteria is not used for selecting documents to present to the user.

In reference to Applicant's arguments on pages 20-21:

Independent claim 33 provides a computer assisted/implemented method for developing a classifier for classifying electronic communications that includes, inter alia, defining a domain of communications on which the classifier is going to operate; collecting a set of communications from the domain, eliciting labeling communication criteria from a user, and labeling communications from the set of communications by

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both the system and the user according, at least in part, to the labeling communication criteria. As discussed above, the machine-generated, human-corrected annotation system of Lewis fails to disclose eliciting labeling criteria for electronic communications from the user before the user labels communications. Lewis also fails to disclose the labeling by both the system and the user based at least in part on the criteria elicited from the user. Accordingly, the applicants submit that claim 33 and all claims dependent thereon are allowable over the art of record.

The applicants submit that claim 51 recites a computer memory contains a software program including the above methodology to develop and deploy a classifier for electronic communications and should also be allowable.

Examiner's response:

The claims and only the claims form the metes and bounds of the invention. The Examiner has provided explanations as to how he interprets the references to read on the claim's limitations. As stated in Lewis, a user inputs data into the system relating to attributes that the user considers are likely to occur in relevant documents (**Lewis**: C7, L1-57). Since the labeling criteria has not been further defined in the claim, the Examiner considers this data inputted by the user as being labeling criteria, since it will be used to determine the relevance of the documents. Also, Lewis discloses machine annotated documents and user annotated documents which are used to produce the classifier (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2). As for eliciting labeling criteria for electronic communications from the user **before** the user labels communications, the claim has stated that the process follows any particular order, but merely "comprises" these processes. Moreover, the claim has not defined labeling communication criteria or labeling criteria to mean different things, therefore, in the broadest reasonable sense, labeling criteria and labeling could mean the same thing.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 11-15, 22-24, 44, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis as set forth above in view of Fries et al. (US Patent #6,751,606, referred to as **Fries**).

Claim 11

Lewis does not teach the interactive session includes posing hypothetical questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 10, wherein the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose

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of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 12

Lewis does not teach the hypothetical questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 11, wherein the hypothetical questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Claim 13

Fries teaches The method of claim 11 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries**: C25, L26-60; EN: item 21 applies. The screens displayed will depend on the answers from previous screens).

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It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

Claim 14

Lewis teaches the step of developing an expression of labeling criteria produces a criteria document (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will depend on the data input by the user).

Claim 15

Lewis teaches the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 22

Lewis does not teach the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant.

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Fries teaches The method of claim 21, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 23

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 22, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical

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questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Claim 24

Lewis does not teach subsequent questions are based, at least in part, upon the answers given to previous questions.

Fries teaches The method of claim 21 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries**: C25, L26-60; EN: item 21 applies. The screens displayed will depend on the answers from previous screens).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

Claim 44

Lewis does not teach the interactive session includes posing questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 43, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user

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would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 45

Lewis teaches the interactive session also allows the user to provide keywords based upon a criteria the user considers relevant (**Lewis**: C7, L1-57; EN: the user request specifies words or attributes the user believes are likely to occur in the relevant documents).

Claim 47

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 44, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Response to Applicant's arguments

16. The Applicant's arguments regarding the rejection under 35 USC 103 have been fully considered but are not persuasive.

In reference to Applicant's arguments on pages 22-23:

Fries relates to a system for searching of a network that includes a network indexing component capable of indexing terms located in pages on the network. (See, e.g., Fries at Abstract.) The indexing component receives a search query and returns a topic for each term in the query that matches an indexed term. (See, e.g., Fries at Abstract.) An animation character may be used in conjunction with the search. (See, e.g., Fries at Abstract.) The interaction in Fries involves the searcher function providing suggestions to the user as to where the user should search and how they should construct their search query. (See, e.g., Fries at col. 2, lines 11-16.) The applicants respectfully submit that the web search engine of Fries is not analogous art to the electronic communications classifier development and deployment recited in the present application. Furthermore, regardless of the lack of relevance of the disclosure found in Fries, providing search suggestions in the machine annotation framework of Lewis fails to teach, suggest, or reasonably motivate the presentation of communications, development of labeling criteria, and deployment of a classifier for electronic communications as recited in pending claims of the present application.

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Examiner's response:

In response, As discussed in MPEP § 2143.01, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine reference teachings. The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references, as discussed in the aforementioned section. Motivation for combining prior art references need not be explicitly found in the references themselves, and the Examiner may provide explanation based on logic and sound scientific reasoning that will support holding of obviousness. Moreover, the court decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S.--,82 USPQ2d 1385 (2007) forecloses the argument that a specific teaching, suggestion or motivation in the references is required to support a finding of obviousness. See the recent board decision *Ex parte Smith*,--USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007) (citing *KSR*, 82 USPQ2d at 1936). Furthermore, applicant cannot show non-obvious by attacking the references individually where as here the rejections are based on a combination of references see *In re Keller* USPQ 871 (CCPA 1981).

In response to applicant's argument that Fries is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both

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Fries and the claimed invention are directed to determining documents that are relevant or irrelevant. Fries searches a database to find documents that are relevant to a user's query. Since both Fries and the claimed invention relate to determining relevancy of data items, the teachings of Fries are considered pertinent to the particular problem with which the Applicant was concerned (determining relevance of data items).

Examination Considerations

17. Examiner has cited particular columns and line numbers (or paragraphs) in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the Applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. The entire reference is considered to provide disclosure relating to the claimed invention.

18. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 105455, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The

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Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

19. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

20. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

21. Examiner's Opinion: items 18-20 apply. The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

23. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email omar.fernandezrivas@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

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If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas
Patent Examiner
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/Omar F. Fernández Rivas/
Examiner, Art Unit 2129
Thursday, September 25, 2008.

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129